

Remarks

The Office action mailed February 8, 2007, has been reviewed and carefully considered. Claims 1, 6, 9, 11, 12, and 13 have been amended. Non-elected claims 15-20 have been canceled without prejudice toward filing a divisional application. New claims 21-30 have been added. Entry of these amendments is respectfully requested.

Claim Objections

Claim 10 has been amended to insert a period.

Rejections Under 35 U.S.C. § 103

Claims 1, 2 and 4-15 are rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Jankowski et al. (US Pre-Grant Publication 2004/0072039) in view of Fuglevand et al. (US Pre-Grant Publication 2002/00031692). Claim 3 is rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Jankowski et al combined with Fuglevand et al. and further combined with Armstrong et al. (U.S. 6,682,841). Applicants traverse these rejections under 35 U.S.C. § 103 for the reasons set forth below.

Claims 1-8

Independent claim 1 has been amended to state that “the air inlet, fuel inlet, electrode connectors, and exhaust outlet are all located within a plug connector configured for plugging into a mating socket.” The examiner recognizes that Jankowski et al. fails to disclose a system that is plug-compatible, and thus relies upon Fuglevand et al. Fuglevand et al. discloses fuel cell cartridges that “are individually physically removable from” a fuel cell power system (paragraph [0077]). However, both Jankowski et al. and Fuglevand et al. are completely silent with respect to locating the air inlet, fuel inlet, electrode connectors, and exhaust outlet all within a plug connector (see, e.g., Figures 1, 2, 5 and 6 of the present application). Accordingly, applicants respectfully request that the rejection of claim 1 (and claims 2-8 that depend therefrom) under 35 U.S.C. § 103 (a) be withdrawn.

With respect to claim 3, Armstrong et al. is relied upon for allegedly teaching that a vacuum foil insulation having solid walls may be used for insulating a fuel cell system. However, there is nothing in Armstrong et al. that cures the above-explained fatal flaw in the primary references. Thus, claim 3 is also patentable over the relied-upon references

Claims 9-15

The Office action does not specifically discuss independent claim 9, but the examiner asserts in relation to dependent claim 6 that “the insulation system of Jankowski et al. uses aerogel, which includes quartz.” Contrary to this assertion, aerogel does not “include quartz.” Silica aerogel and quartz are very different forms of silicon dioxide. Moreover, aerogel does not “include quartz” since aerogel is made from silica gel rather than quartz as explained in detail below.

In general, aerogel is a “dispersion of a gas in a solid or a liquid” (see excerpt from Hawley’s Condensed Chemical Dictionary, p. 25 (13th ed., 1997) (attached as Exhibit 1)). More specifically, an aerogel can be made from many different materials, including silica, carbon, alumina, and agar (see Wikipedia entry for “Aerogel” at <http://en.wikipedia.org/wiki/Aerogel> (attached as Exhibit 2)). The present application describes silica aerogel as “a porous material with extreme microporosity made by high-temperature and pressure supercritical drying of a silicon dioxide gel comprising a colloidal silica structural units filled with solvents” (page 5, lines 24-26). Silicon dioxide gel (also known as silica gel) consists of amorphous silica (see excerpt from Hawley’s Condensed Chemical Dictionary, p. 996 (13th ed., 1997) (attached as Exhibit 3)). Quartz, on the other hand, is crystallized silicon dioxide (see excerpt from Hawley’s Condensed Chemical Dictionary, p. 948 (13th ed., 1997) (attached as Exhibit 4)). Aerogel and quartz are two mutually exclusive materials. Accordingly, Jankowski et al.’s mention of “aerogel material” cannot be equated with a teaching of quartz.

For the foregoing reason alone, the obviousness rejection of claims 9-15 must be reconsidered and withdrawn. Applicants also note dependent claim 12 recites “a gas-tight envelope enclosing an insulating member.” And dependent claim 13 specifies that the insulating member “is selected from the group consisting of aerogel, vacuum multifoil insulation, and low density fibrous ceramic insulation.” Neither Jankowski et al. nor Fuglevand et al. disclose such an insulating construct.

Conclusion


Applicants submit that the present application is condition for allowance. Should there be any questions regarding this application, Examiner Echelmeyer is invited to contact the undersigned attorney at the telephone number shown below.

Respectfully submitted,

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